

STAT 453/558 A01 (Spring 2017)

Design and Analysis of Experiments

Instructor: Prof. E. Cormier, DTB A540, 250-721-7457, ecormier@uvic.ca

Prerequisite: STAT 353

Textbook: *Design and Analysis of Experiments*, 8th Edition, by D.C. Montgomery

Lecture Hours: A01 [22946] MTh 10:00 - 11:20am, MAC D283

Office Hours: MTh 11:30 - 1:00pm, *or by appointment*

Topics:

Chapter 1. Introduction

Chapter 2. Simple comparative experiments

Chapter 3. Experiments with a single factor

Chapter 4. Randomized blocks, Latin squares and related designs

Chapter 5. Introduction to factorial designs

Chapter 6. The 2^k factorial design

Chapter 7. Blocking and confounding in the 2^k factorial design

Chapter 8. Two-level fractional factorial designs

Chapter 10. Fitting regression models

Chapter 11. Response surface methods and designs

Statistics Software: R will be used to do data analysis for this course.

CourseSpace: R programs and assignments will be posted on the CourseSpace.

Determination of Final Grade:

Assignments:	To be announced	30%
Midterm Exam:	Feb. 23	20%
Final Exam:	To be scheduled	50%

There are four assignments, which will be announced in class. If you work together on these assignments, it is expected that everyone writes up his/her solution independently. Straightforward copying is expressly forbidden, and anyone caught doing this will be dealt with severely. **Late assignments will not be accepted for marking.** Regardless of the reason, **there will be no make-up midterm test.** If you miss the midterm test due to illness, accident, or family affliction, you should notify me upon

returning to classes, and provide a written request to be excused as well as supporting documentation. In such cases, the 20% for this midterm test will be divided between the final exam (10%) and the assignments (10%).

The assignments and midterm test will be returned in class, or can be claimed during office hours. Any term work that is not collected by the end of the final exam period will be recycled. If you have a question or concern about an assigned mark, you need to bring it to my attention within seven calendar days of the date when it is returned in class.

Calculator: A calculator is allowed in midterm test and final examination in this course, and the only acceptable calculator is the Sharp EL-510R or the Sharp EL-510RNB. It may be purchased at the UVic Bookstore or elsewhere for about \$12.

Emails: Due to the large number of students that I teach and many research and committee meetings that I have, it is often impossible to answer every email quickly. For this reason, if you use email to make an appointment with me, please use “**Subject: STAT 453/558**” and give me at least 24 hours to reply your email. It is also very hard to use email for math and stats technical questions. Please use my office hours for technical questions and R programming problems. I will do my best to help you.

Course Experience Survey (CES):

I value your feedback on this course. Towards the end of term, as in all other courses at UVic, you will have the opportunity to complete an anonymous survey regarding your learning experience (CES). The survey is vital to providing feedback to me regarding the course and my teaching, as well as to help the department improve the overall program for students in the future. When it is time for you to complete the survey you will receive an email inviting you to do so. You will need to use your UVic netlink ID to access the survey, which can be done on your laptop, tablet, or mobile device. I will remind you and provide you with more detailed information nearer the time. I take your comments seriously and thank you in advance for them.

Final exam:

The 3-hour final examination will be scheduled by Records to occur during the final examination period (April 7 - 25, 2017).

Accessibility

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the Resource Centre for Students with a Disability (RCSD) as soon as possible. The RCSD staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations <http://rcsd.uvic.ca/>. The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.

Grading Percentage scores will be converted to letter grades according to the university-wide standard table (<http://web.uvic.ca/calendar2016-09/undergrad/info/regulations/grading.html>).

Final Examination

Off-schedule final examinations (i.e., deferred examinations) are given only in accordance with the university policy as outlined in the Calendar. If you are unable to write a final examination due to illness, accident or family affliction, please refer to the following webpages for detailed instructions how to proceed: <http://web.uvic.ca/calendar2016-09/undergrad/info/regulations/concessions.html>.

Students are **strongly advised not to make plans for travel or employment during the final examination period** as special arrangements will not be made for examinations that conflict with such plans.

Supplemental Examinations.

The Department of Mathematics and Statistics does not award 'E' grades or offer Supplemental Examinations in any of its courses.

Policies and Ethics

Attendance

The university Calendar states 'Students are expected to attend all classes in which they are enrolled.' (see <http://web.uvic.ca/calendar2016-09/undergrad/info/regulations/attendance.html>). Our courses are conducted on that basis. If you miss an announcement (information concerning midterms, corrections to assignment, etc.) because you did not attend class, you must accept the consequences of not having learned of the change.

Guidelines on Religious Observances

Where classes or examinations are scheduled on the holy days of a religion, students may notify their instructors, at least two weeks in advance, of their intention to observe the holy day(s) by absenting themselves from classes or examinations. Instructors will provide reasonable opportunities for such students to make up work or missed examinations.

Academic Integrity

Academic integrity is intellectual honesty and responsibility for academic work that you submit individual or group work. It involves commitment to the values of honesty, trust, and responsibility. It is expected that students will respect these ethical values in all activities related to learning, teaching, research, and service. Therefore, plagiarism and other acts against academic integrity are serious academic offenses.

The responsibility of the institution

Instructors and academic units have the responsibility to ensure that standards of academic honesty are met. By doing so, the institution recognizes students for their hard work and assures them that other students do not have an unfair advantage through cheating on essays, exams, and projects.

The responsibility of the student

Plagiarism sometimes occurs due to a misunderstanding regarding the rules of academic integrity, but it is the responsibility of the student to know them. If you are unsure about the standards for citations or for referencing your sources, ask your instructor. Depending on the severity of the case, penalties include a warning, a failing grade, a record on the students transcript, or a suspension.

It is your responsibility to understand the University's policy on academic integrity:
<http://web.uvic.ca/calendar2014/GRAD/FARe/PoAcI.html>

Important scheduling information:

Classes begin: Wednesday, January 4, 2017

Drop (100% Fee Reduction): Tuesday, January 17, 2017

Last Day to Add Courses: Friday, January 20, 2017

Drop (50% Fee Reduction): Tuesday, February 7, 2017

Family Day (no classes): Monday, February 13, 2017

Reading Break (no classes): February 13-17, 2017

Academic Drop Date: Tuesday, February 28, 2017

Last day of classes: Tuesday, April 4, 2017

Examination period: April 7-25, 2017